

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
1 November 2001 (01.11.2001)

PCT

(10) International Publication Number
WO 01/82193 A1

(51) International Patent Classification: **G06F 17/60**

C. [US/US]: 7542 Shadwhill Lane, Cupertino, CA 95014 (US).

(21) International Application Number: PCT/US01/13307

(74) Agent: **YOUNG, Alan, W.**; Young Law Firm, P.C., 4370 Alpine Road, Suite 106, Portola Valley, CA 94028 (US).

(22) International Filing Date: 25 April 2001 (25.04.2001)

(25) Filing Language: English

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DG, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(26) Publication Language: English

(30) Priority Data:
60/199,932 26 April 2000 (26.04.2000) US

(71) Applicant (*for all designated States except US*): **ORACLE CORPORATION** [US/US]: 500 Oracle Parkway, MS 50p7, Redwood Shores, CA 94065 (US).

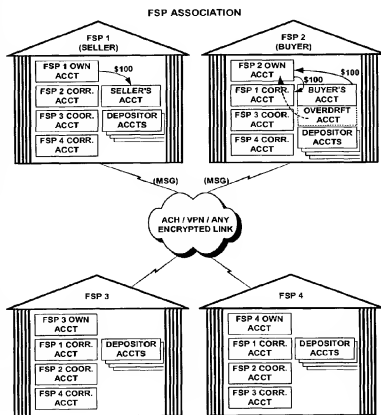
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): **JOHNSON, Richard,**

[Continued on next page]

(54) Title: MANY-TO-MANY CORRESPONDANCE: METHODS AND SYSTEMS FOR REPLACING INTERBANK FUNDS TRANSFERS



(57) Abstract: By establishing a correspondence account in each Financial Service Provider (FSP) of a group of FSPs and a secure inter-FSP messaging mechanism, transfers of funds entirely within member FSPs (FSP 1, FSP 2, FSP 3, FSP 4) may be combined with secure messaging to effectively transfer funds between buyers in one FSP (FSP 2) and sellers in another FSP (FSP 1) without actual transfer of funds between FSP's.

WO 01/82193 A1



Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

**MANY-TO-MANY CORRESPONDANCE:
METHODS AND SYSTEMS FOR REPLACING INTERBANK FUNDS
TRANSFERS**

5 BACKGROUND OF THE INVENTION

1. Cross Reference To Related Applications

The subject matter of the present application is related to the subject matter disclosed in co-pending and commonly assigned US patent applications serial number 09/272,056, entitled "Methods And Systems For Single Sign-On Authentication In A Multi-Vendor E-Commerce Environment And Directory-Authenticated Bank Drafts" filed on March 18, 1999; serial number 09/405,741, entitled "Methods And Systems For Carrying Out Directory-Authenticated Electronic Transactions Including Contingency Dependent Payments Via Secure Electronic bank Drafts" filed on September 24, 1999; serial number 09/490,783, entitled "eDROPSHIP: Methods And Systems For Anonymous E-Commerce Shipment" filed on January 24, 2000, and serial number xx/xxx,xxx, attorney docket number ORCL5595CIP filed on _____ entitled "Methods And Systems For Carrying Out Contingency-Dependent Payments Via Secure Electronic Bank Drafts Supported By Online Letters Of Credit And/Or Online Performance Bonds", the disclosures of which are hereby incorporated herein in their entirety.

20 **2. Field of the Invention**

The present invention relates to methods and systems for low cost and high-speed transfers of funds between bank accounts and the accounts of buyers and sellers.

3. Description of the Related Art

Inter-bank transfers are expensive when carried out on a per-transaction basis.

25 These costs are not significantly reduced even when the processing of such transfers is carried out on a batch basis. This is true whether the funds are transferred by clearing

credit card charges or when transferring money through the ACH (Automated Clearing House) network or other networks used by financial institutions to move money and information around. Not only are inter-bank transfers expensive, but they are also slow. High cost is only one problem associated with traditional inter-bank transfers; the long delay inherent in executing such transfers is another. Although most current Electronic Funds Transfers (EFT) are usually executed in a single day, this falls far short of "Internet Time", in which transfers of money and information must flow in real time, as transactions are executed and information exchanged.

What are needed, therefore, are methods and systems for decreasing both the cost and delay traditionally associated with the transfer of funds between banks.

SUMMARY OF THE INVENTION

It is, therefore, an object of the present invention to provide methods and systems for decreasing both the cost and delay traditionally associated with the transfer of funds between Financial Service Providers (FSPs).

In accordance with the above-described objects and those that will be mentioned and will become apparent below, the present invention is a method of transferring a payment to a seller having an account at a first FSP from a buyer having an account at a second FSP, the first FSP owning a first account at the first FSP and the second FSP owning a second account at the second FSP. The method may include steps of establishing a second correspondence account at the second FSP, the second correspondence account being owned by the first FSP; debiting the payment from the buyer's account and correspondingly crediting the payment to the second account; debiting the payment from the second account and correspondingly crediting the payment to the second correspondence account, and sending a secure message to the first FSP, advising the first FSP that the payment has been transferred to the second correspondence

account and requesting that funds corresponding to the transferred payment be credited to the seller's account.

The first FSP may carry out a step of debiting the payment from the first account and correspondingly crediting the seller's account upon receipt of the message. A step of establishing a first correspondence account at the first FSP, the first correspondence account being owned by the second FSP may also be carried out. The method may also include a step of receiving an acknowledgment from the first FSP, the acknowledgment at least indicating receipt of the secure message by the first FSP and/or indicating that the payment has been credited to the seller's account. A fee may be assessed from the buyer, the seller, the first FSP and/or the second FSP, for example. The buyer's account and/or the seller's account may include, may be or may be tied to a credit, debit, bank or payment card, for example.

The present invention is also a method of transferring a payment to a seller having an account at a first FSP from a buyer having an account at a second FSP, comprising steps of establishing a second correspondence account at the second FSP, the second correspondence account being owned by the first FSP; debiting the payment from the buyer's account and correspondingly crediting the second correspondence account, and sending a secure message to the first FSP, advising the first FSP that the payment has been transferred to the second correspondence account and requesting that funds corresponding to the transferred payment be credited to the seller's account.

The first FSP may own a first account at the first FSP and may carry out a step of debiting the payment from the first account and correspondingly crediting the payment to the seller's account upon receipt of the secure message. A step of establishing a first correspondence account at the first FSP may also be carried out, the first correspondence account being owned by the second FSP. An acknowledgment may be received from the

first FSP, the acknowledgment indicating receipt of the secure message by the first FSP and/or that the seller's account at the first FSP has been correspondingly credited, for example. A fee may be assessed from the buyer, the seller, the first FSP and/or the second FSP, for example. The buyer's account and/or the seller's account may include, 5 may be or may be tied to a credit, debit, bank and payment card, for example.

The present invention may also be viewed as a method of transferring a payment to a seller having an account at a first FSP from a buyer having an account at a second FSP, the second FSP owning a second account at the second FSP. The method may include steps of establishing a first correspondence account at the first FSP, the first 10 correspondence account being owned by the second FSP; debiting the payment from the buyer's account and correspondingly crediting the payment to the second account, and sending a secure message to the first FSP, advising the first FSP to debit the payment from the first correspondence account and correspondingly credit the payment to the seller's account.

15 A second correspondence account may be established at the second FSP, the second correspondence account being owned by the first FSP. The first FSP further may carry out a step of debiting the payment from the first correspondence account and correspondingly crediting the payment to the seller's account upon receipt of the message. An acknowledgment may be received from the first FSP, the acknowledgment at least 20 indicating receipt of the secure message by the first FSP and/or that the seller's account has been correspondingly credited. A fee may be assessed from the buyer, the seller, the first FSP and/or the second FSP. The buyer's account and/or the seller's account may include, may be or may be tied to a credit, debit, bank and payment card (or other forms of electronic money), for example.

The present invention is also a method of transferring a payment through an FSP to a seller having an account at a first FSP from a buyer having an account at a second FSP, the FSP maintaining a first account for the first FSP and a second account for the second FSP, comprising the steps of debiting the payment from the buyer's account; 5 sending a first secure message to the FSP, instructing the FSP to debit the payment from the second account and correspondingly credit the payment to the first account; receiving a second secure message from the first FSP, advising the second FSP that the payment has been transferred to the seller's account.

The FSP further may carry out a step of securely notifying the first FSP of the 10 crediting of the payment to the first account. The first FSP may carry out a step of crediting the payment to the seller's account and sending the second secure message to the second FSP. The FSP may include a Central National Bank or the Federal Reserve Bank (in the case wherein the FSP is located in the United States), for example. Alternatively, the FSP may include an issuer of a credit, debit, bank and payment card, for example. 15 The method may further include a step of assessing a fee from the buyer, the seller, the first FSP and/or the second FSP. The buyer's account and/or the seller's account may include, may be or may be tied to a credit, debit, bank and payment card, for example.

The present invention may also be viewed as a method for an organization (such as a credit card company, bank, etc.) to intermediate between a buyer transferring a 20 payment from a buyer account at a first FSP to a seller account at a second FSP, the FSP maintaining a first account for the first FSP and a second account for the second FSP, comprising the steps of receiving a first secure message from a first FSP, the first secure message instructing the FSP to debit the payment from the first account and correspondingly credit the payment to the second account; after receiving the first secure 25 message, debiting the payment from the first account and correspondingly crediting the

payment to the second account, and sending a second secure message to the second FSP, advising the second FSP of the crediting of the payment to the second account and instructing the second FSP to correspondingly credit the payment to the seller's account.

5 The present invention, according to another embodiment thereof, is a method for a card issuing company to transfer a payment from a buyer having a buyer account at a first FSP to a seller having a seller account at a second FSP, each of the first and second FSPs maintaining a correspondence account for the card issuing company, comprising the steps of debiting the payment from the buyer account and correspondingly crediting the payment to the card issuing company's correspondence account at the first FSP; sending a
10 first secure message to the second FSP, the secure message advising the second FSP that the payment has been credited to the card issuing company's correspondence account at the first FSP; receiving a second secure message from the second FSP, the second secure message advising the first FSP that the payment has been debited from the card issuing company's correspondence account at the second FSP and credited to the seller account.

15 According to still another embodiment thereof, the present invention is a method for a card issuing company to transfer a payment from a buyer having a buyer account at a first FSP to a seller having a seller account at a second FSP, each of the first and second FSPs maintaining a correspondence account for the card issuing company, comprising the steps of receiving a first secure message from the first FSP, the secure message indicating
20 that the payment has been debited from the buyer account and credited to the card issuing company's correspondence account in the first FSP; responsive to receiving the first secure message, debiting the payment from the card issuing company's correspondence account in the second FSP and correspondingly crediting the payment to the seller account, and sending a second secure message to the first FSP, the secure message
25 advising the first FSP that the payment has been credited to the seller account.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a block diagram of a system and method for carrying out inter-FSP funds transfers, according to an embodiment of the present invention.

Fig. 2 is a block diagram of additional systems and methods for carrying out inter-FSP funds transfers, according to another embodiment of the present invention.

Fig. 3 is a block diagram of another system and method for carrying out inter-FSP funds transfers, according to another embodiment of the present invention.

DESCRIPTION OF THE INVENTION

The present invention may be implemented independently of the iDraft™ and eDropShip™ systems disclosed in the above-listed US patent applications, although enhanced functionality may be achieved if the systems and methods disclosed herein are utilized in conjunction with the present invention.

An embodiment of the present invention is shown in Fig. 1. Fig. 1 shows a plurality of FSPs (of which only four are shown in Fig. 1), labeled FSP1, FSP2, FSP3 and FSP4. Within the context of the present invention, the term "FSP" shall be understood to include all financial services institutions accepting deposits of cash, negotiable securities, marketable shares/stock into numbered (or otherwise uniquely-identified) accounts and honoring checks, drafts and/or other customer instructions, given that such institutions know their clients within the meaning of relevant U.S. and other banking regulations. Such a definition includes (but is not limited to) traditional banks and savings institutions, stockbrokers, online trading concerns, credit unions and any institution that legally identifies with and has some financial relationship with an account holder and that has the ability to honor customer or account holder instructions referring to specific accounts. Each of the FSPs of Fig. 1 holds a plurality of depositor accounts DEPOSITOR ACCTS

and one or more accounts owned by the FSP itself. For example, the account owned by FSP1 is identified in Fig. 1 as FSP1 OWN ACCT. Likewise, the account owned by FSP2 is shown in Fig. 1 as FSP2 OWN ACCT, that of FSP3 as FSP3 OWN ACCT and the account owned by FSP 4 is shown as FSP4 OWN ACCT.

- 5 In addition, each of the FSPs FSP1, FSP2, FSP3 and FSP4 may form part of an association, called "FSP ASSOCIATION" in Fig. 1 for convenience. The FSP ASSOCIATION may include a standard setting body and a body that regulates membership in the association, as well as polices the behavior of the member FSPs, to insure compliance with membership guidelines as well as compliance with all applicable
- 10 federal and state banking laws. Each of the member FSPs of the FSP ASSOCIATION, according to the present invention, also includes a correspondence account for each of the other FSPs of the FSP ASSOCIATION. Indeed, FSP1 includes a correspondence account for each of the FSPs FSP2, FSP3 and FSP4, labeled as FSP2 CORR. ACCT, FSP3 CORR. ACCT and FSP4 CORR. ACCT, respectively. Likewise, the correspondence
- 15 accounts held by FSP FSP2 include FSP1 CORR. ACCT, FSP3 CORR. ACCT and FSP4 CORR. ACCT. Similarly, the correspondence accounts held by FSPs FSP3 and FSP4 include FSP1 CORR. ACCT, FSP2 CORR. ACCT, FSP4 CORR. ACCT and FSP1 CORR. ACCT, FSP2 CORR. ACCT, FSP3 CORR. ACCT, respectively. Each FSP, therefore, holds a correspondence account for each of the other FSPs in the FSP
- 20 ASSOCIATION. The correspondence accounts are accounts that are owned by the correspondence and held by other FSPs. Thus, there is a Many-To-Many correspondence relationship among the several FSPs. Some of these correspondence accounts may remain dormant, with zero balances. Some of the correspondence accounts, however, may allow the rapid and inexpensive transfer of funds between member FSPs. That is,
- 25 using the correspondence accounts according to the present invention, funds may be

transferred from a buyer's account at one FSP to the seller's account at another FSP at what is believed to be nearly the lowest attainable cost.

Suppose now, for purposes of illustration, that FSP FSP1 is the seller's FSP (the FSP in which the seller maintains an account) in some transaction for the sale of goods and/or services and that the FSP FSP2 is the buyer's FSP (the FSP in which the buyer maintains an account) for that same transaction. The seller, therefore, maintains an account at FSP1 (called SELLER'S ACCT in Fig. 1) and the buyer maintains an account at FSP2 (called BUYER'S ACCT in Fig. 1). According to the present invention, payment on a transaction may be made without any money (electronic or otherwise) flowing between the buyer's and seller's FSPs; that is, from BUYER'S ACCT in FSP2 to SELLER'S ACCT in FSP1. Indeed, according to an embodiment of the present invention, when payment on a transaction (an iDraft™ transaction, for example) is to be made, money should flow from the buyer's account to the seller's account. That is, money should be debited from BUYER'S ACCT in FSP2 and be credited to SELLER'S ACCT in FSP1.

To do this according to the present invention without causing money to flow between FSP1 and FSP2, the buyer's FSP FSP2 may debit (with the buyer's pre-authorization) an amount of money at least equal to payment on the transaction (say \$100) from the buyer's account BUYER'S ACCT and transfers it into its own account FSP2 OWN ACCT. Thereafter, FSP2 may transfer the \$100 from FSP2 OWN ACCT into the correspondence account for FSP1. Therefore, there has now been an intra-FSP transfer of funds entirely within FSP2 at least equal to the payment for the transaction. The buyer has performed, in that an appropriate sum (in this case, \$100) has been debited from its account BUYER'S ACCT for payment on the goods and/or services underlying the transaction between the buyer and seller. Now, instead of FSP2 transferring \$100 to FSP1

(through ACH, for example), FSP2 may send FSP1 a secure message (referenced in Fig. 1 as the cloud bearing the legend ACH / VPN (Virtual Private Network) / Any Encrypted Link indicating that funds at least equal to the amount of purchased goods or services have been transferred by the buyer's FSP FSP2 to the seller's FSP's correspondence account FSP1 CORR. ACCT at the buyer's FSP FSP1. Having received this secure, (encrypted, for example) message from the buyer's FSP FSP2, the seller's FSP FSP1 may now transfer \$100 (in this example) from its own account FSP1 OWN ACCT into the seller's account at FSP1, namely, SELLER'S ACCT. In one advantageous embodiment, the message is sent by software at FSP2 and is configured to be read by software at FSP1, without human intervention. The seller has now received the benefit of the bargain; namely, payment for the goods and/or services transferred to buyer. Money, therefore, has effectively flowed from the buyer's account BUYER'S ACCT at FSP2 to the seller's account SELLER'S ACCT at FSP2 without any actual transfer of funds between the two FSPs.

Such transactions may occur many times during the course of a single day. Each FSP within the FSP ASSOCIATION may decide when and whether to transfer the funds on deposit in their correspondence accounts at other FSPs back to them or may move funds in any manner permitted by normal electronic banking operations. As the correspondence accounts may be interest-bearing accounts, funds on deposit therein need not lie dormant. Should any FSP wish to transfer funds it has on deposit in its correspondence account at another FSP, it may do so via ACH, for example, at the end of the day or at any time and in any manner, as known to those of skill in this art. In this manner, a single inter-FSP transfer (carried out at the transferor FSP's convenience), may collect the proceeds of many individual transactions, thereby allowing further economies of scale.

The practical result of the present invention is very close to an instantaneous transaction from the buyer and seller's point of view, executed through the agency of their respective FSPs. The cost of moving money intra-FSP from one account to another is very low. Further reduction in expense comes from the inherent balancing of buyer and seller transactions where, as in Fig. 2, the correspondence account is used to fund a transaction within the buyer's or seller's FSP. Thus, transaction savings are produced and delays in payment greatly reduced. The present invention requires that FSPs act on the payment advice they receive as secure messages describing the transactions and that the seller's FSP transfers funds into the seller's account based upon the received payment advice.

According to the present invention, the secure message between the FSPs may include some or all of the following information:

An identification of the buyer sufficient to authenticate the buyer to the satisfaction of the buyer's FSP;

An identification of the seller sufficient to authenticate the seller to the satisfaction of the seller's FSP;

An identification of the buyer's FSP;

An identification of the seller's FSP;

An amount to be transferred from the buyer to the seller and

A unique reference number or other unique transaction identifier.

The secure message, for example, may be formatted in Extensible Markup Language (XML).

Fees may be levied at each or selected stages of the above-described processing of the payment on the transaction. For example, the fees associated with the payment may be entirely borne by the seller, or may be apportioned between the buyer and the seller,

according to a preexisting agreement. In the case wherein the fees are borne entirely by the seller, a portion of the fees may be deposited in the seller's FSP's own account (FSP1 OWN ACCT in Fig. 1) and another portion of the fees levied from the seller may be deposited in the buyer's FSP's own account (FSP2 OWN ACCT in Fig. 1). Permutations of the above are possible, by agreement between the FSPs. The fees assessed may be low, benefiting the buyer, whereas the present invention benefits the seller by providing near instantaneous payment thereto.

One of the paradoxes of modern credit is that FSPs profit little from their best customers; i.e., those that are in the best financial condition and those that do not regularly use revolving credit. FSPs may even lose money on customers that pay their credit card bill in full every month. The present invention allows FSPs to levy a small fee and generate revenue for each transaction carried out on behalf of their very best customers (and all customers who use this service), thereby mitigating the effect of providing such customers with free credit and/or other forms of deferred payment services. Moreover, the buyer, by virtue of the near instantaneous payment to the seller, may negotiate a smaller price for the goods and/or services underlying the transaction.

Receipts may be generated for both the buyer and seller to provide a record of the execution of the transaction and the transfer of funds between the parties thereto. Moreover, the unique reference number may provide a convenient instrument with which to query the FSPs' database records, to obtain historical data relating to the payment, either for the FSPs' own purposes, for law enforcement or other purposes, for example. Transactional anonymity may be assured, as the buyer may be authorized to query the FSPs' records based upon the unique reference number, whereas the seller (who only has the right to receive money) need only learn the identity of the buyer's FSP or an alias thereof.

The cost of transferring funds in this manner is believed to be substantially lower than the cost of transferring money between FSPs in the conventional manner. Indeed, if the cost of transferring money between accounts within a single FSP is denoted by LC (Lowest Cost) and the cost of generating, sending and receiving the secure message between the FSPs is denoted by CM (Cost of Message), then TC (the Total Cost of transferring money from the buyer's account to the seller's account) may be approximated by the equation $TC = (2 \times LC) + CM$, which may be the lowest attainable cost for a two FSP transaction. For transaction involving n FSPs, the equation becomes $TC = (n \times LC) + (n \times CM)$.

Each of the buyer and seller's accounts may be coupled to an overdraft protection account, as shown in dashed lines in FSP2. In that case, the intra-FSP transfers may actually take place between the FSPs' own accounts and the parties' overdraft accounts.

Fig. 2 shows additional embodiments of the present invention. FSP3 and FSP4 have been omitted for clarity of illustration, as has been the cloud representing the secure link through which inter-FSP messaging occurs according to the present invention. Also omitted from FSP1 and FSP2 are the respective depositor accounts, as well as the correspondence accounts FSP3 CORR. ACCT and FSP4 CORR. ACCT, again for clarity of illustration. As shown in Fig. 2, to effectuate payment between the buyer and seller, the buyer may transfer or cause to be transferred the amount corresponding to the purchase of the goods and/or services (\$100 in the current example) from the BUYER'S ACCT to the buyer's FSP's own account FSP2 OWN ACCT, as shown in step S1. FSP2 may then generate a secure, (encrypted, for example) message to FSP1, advising FSP1 of the transfer and other details of the transaction and instructing and authorizing FSP1 to transfer a corresponding amount (\$100) from FSP2's correspondence account FSP2 CORR. ACCT in FSP1 directly into the seller's account SELLER'S ACCT in FSP1.

Again, funds were transferred between buyer and seller without any transfer of funds between the FSPs at which the buyer and seller maintain their accounts. Alternatively, funds may be transferred directly from BUYER'S ACCT to FSP1's correspondence account FSP1 CORR. ACCT at FSP2, as shown at step S1'. Thereafter, a secure, 5 (encrypted, for example) message may be generated by FSP2, advising FSP1 of the transfer and of other details of the transaction, and requesting and authorizing that FSP1 correspondingly credit SELLER'S ACCT from its own account FSP1 OWN ACCT, as shown at S2'. In all cases, one or more secure (encrypted, for example) acknowledgment messages may be sent back to the FSP that originated the first message. The 10 acknowledgement message(s) may include an acknowledgement of receipt of the first message and/or confirmation that the requested funds transfers have indeed taken place.

As shown in Fig. 3, the correspondence accounts need not be maintained by the FSPs themselves. Indeed, the correspondence accounts for FSP1 and FSP2 may be held by an organization such as a credit card company, a bank or some other FSP. According 15 to one embodiment of the present invention, the organization may include the United States Federal Reserve Bank system (hereafter, FRB). In other countries, the organization of Fig. 3 may be that country's Central National Bank. In the United States, the FRB already maintains accounts for all of the major and most of the minor FSPs in the United States and is able to transfer money between these accounts as authorized by the 20 associated FSPs. According to this embodiment of the present invention, these FRB accounts serve as proxies for the correspondence accounts described relative to Figs. 1 and 2. This embodiment of the present invention further reduces the cost of maintaining the Many-To-Many relationship described herein, because it is the FRB (or other Central National Bank) and not the individual FSPs that maintains the correspondence accounts. 25 In its simplest form, this embodiment enables a transfer of funds between two FSPs to be

carried out by a funds transfer between the FRB accounts of the two FSPs and some secure messaging, just as if funds were, in fact, transferred to the correspondence account held by one of the two FSPs.

Fig. 3 assumes that the buyer in a given transaction maintains an account called Buyer Acct in FSP2 and that the seller maintains an account in FSP1 called Seller's Acct. The ORGANIZATION (such as the FRB, for example) maintains a correspondence account called FSP2 ACCT for FSP2 and a correspondence account called FSP1 ACCT for FSP1. To transfer a payment from the buyer to the seller according to this embodiment of the present invention, the buyer's FSP FSP2 may debit the payment (and optionally a fee, as agreed upon by the parties) from the Buyer's Acct and may credit the payment to FSP2's own account (within FSP2), FSP 2 OWN ACCT, as shown at S31. A secure message may then be sent to the ORGANIZATION as shown at S32, instructing the ORGANIZATION to correspondingly debit the FSP2 ACCT correspondence account by the amount of the payment (and optionally a fee, as agreed upon by the parties) and correspondingly credit the payment to the FSP1 ACCT correspondence account, the account owned by the Seller's FSP FSP1 and held by the ORGANIZATION. This transfer between correspondence accounts is shown at S33. As shown at S34, the ORGANIZATION may then send a secure message to FSP1, advising FSP1 of the crediting of the payment to FSP1 ACCT, FSP2's correspondence account held by the ORGANIZATION. Upon receipt of the secure message from the FSP, FSP1 may then credit Seller's Acct as shown at S35, from its own account FSP 1 OWN ACCT, for example. Lastly, S36 calls for another secure message to be sent from FSP1 to FSP2, advising FSP2 that the payment has been transferred to Seller's Acct, thus completing the payment transfer from Buyer to Seller and the confirmation thereof to the buyer. Each of the secure messages, according to the present invention, may be followed by an

acknowledgement from the recipient of the secure message to the sender thereof. Note that funds have effectively changed hands from the Buyer to the Seller without any money physically or electronically moving across institutional boundaries: the only transfers that occurred were within FSP2, within the ORGANIZATION or within FSP1. At some later time (or immediately), FSP1 and/or FSP2 may wish to transfer some or all of its funds on deposit with the ORGANIZATION to its own accounts, either singly or as a batch transaction. Such a transfer may be desirable should any of the correspondence accounts FSP1 ACCT and/or FSP2 ACCT accumulate an excess of funds, in the judgment of the owner of the correspondence account. In conventional fund transfers (such as FedWire, for example), normal settlement does not occur until some time after the seller's FSP FSP1 has received the actual transfer of funds, often incurring considerable delays and per-transaction expense. The Many-To-Many payment scheme disclosed herein changes this conventional mechanism of inter-FSP funds transfers in favor of a secure messaging-based settlement mechanism coupled with fast, low cost and secure intra-FSP funds transfers.

According to further embodiments of the present invention, Seller's Acct and/or Buyer's Acct may be, include or be tied to a credit card, a debit card, a bank card, a payment card or any other form of electronic money. The card issuing institution may, at its option, charge interest on negative balances and/or pay interest on positive balances in the Seller's Acct and/or the Buyer's Acct. The risk of fraudulent purchases and/or activity is minimal, as the identities of both the buyer and seller remain known by their respective FSPs. Every credit card customer should be known to the issuing FSP if a credit, debit or any other card is to be used in conjunction with iDraft™ and/or the present invention. Smart cards to aid in establishing identity and in accomplishing authentication may also be advantageously employed within the context of the present invention. In all cases, the

buyer's FSP preferably vouches for the buyer as a known client and the seller's FSP vouches for the seller, who is the recipient of the funds transfer (to prevent money laundering, for example).

Likewise, the ORGANIZATION may be or include a card issuing institution, such
5 as a credit card company, for example. Preferably, cards are authenticated by a FSP if the transaction is over an amount set by agreement between the buyer and the FSP. According to a further embodiment of the present invention, the ORGANIZATION, as a card issuing institution, may hold correspondence accounts for all of the FSPs with which it does business. A buyer, in this manner, may make a purchase from a seller using a card
10 from a card issuing institution with whom the buyer does not even have an account. For example, if the ORGANIZATION is a VISA® card issuing institution, the buyer may carry out a VISA® transaction, even though the buyer may not have a VISA® account, as the only transfer from the Buyer's Acct is to the FSP's own account (FSP 2 OWN ACCT in Fig. 3) and the only transfer to the Seller's Acct is from the seller's FSP own account
15 (FSP 1 OWN ACCT in Fig. 3).

Alternatively, the seller's and the buyer's FSPs themselves may maintain the card issuing company's correspondence accounts. Indeed, FSP1 and FSP2 may each maintain a correspondence account for the card issuing institution, called the Card Issuing Institution Account or CIIA in Fig. 3. Although only one such CIIA is shown in Fig. 3 in
20 each of FSP1 and FSP2, it is to be understood that each FSP may maintain such a CIIA correspondence account for each card issuing institution, such as VISA®, MASTER CARD® and the like. In this case, instead of FSP2 crediting the FSP 2 OWN ACCT with the payment debited from Buyer's Acct, the CIIA account at FSP2 may be credited with the payment debited from the Buyer's Acct, as shown at S31' in Fig. 3. A secure message
25 may then be sent to FSP1 as shown at S36', instructing FSP1 to debit the CIIA in FSP1

and to correspondingly credit Seller's Acct, as shown at S35'. An acknowledgment may then be sent to FSP2, advising FSP2 and/or the Buyer of the completion of the transfer. Fees may be assessed at any stage of the above-described transaction, as agreed upon by the parties thereto. Note that this embodiment does not require the ORGANIZATION to

5 maintain the correspondence accounts FSP1 ACCT and/or FSP2 ACCT, as the correspondence accounts are held by each of the FSPs FSP1 and FSP2 that are party to the transfer.

In like manner, each card issuing institution may (if allowed by the bylaws of the institution), according to the present invention, maintain correspondence accounts for

10 each of the other card issuing institutions, thereby providing the Many-To-Many relationship between each of the card issuing institutions and enabling funds to be effectively transferred across the institutional boundaries of such card issuing institutions while moving only secure messages (and not funds) across those boundaries. Of course, when and if the CHIA correspondence accounts accumulate excessive funds, the owners of

15 those accounts may decide to transfer all or a portion of those funds on deposit. Such transfers may be triggered by some event, such as a balance threshold or a specific interval, date and/or time of day, for example. In this manner, when a transfer of funds across institutional boundaries does occur, the transfer may represent a cumulative amount representative of many individual transactions, thus further decreasing the cost of

20 transferring money.

The present invention is a payment mechanism and not a credit mechanism. Indeed, all credit must be secured outside of the Many-To-Many framework described herein. In this manner, the transfer of funds according to the present invention does not require credit checks and does not burden transactions with the risks inherent in extending

25 credit. The card issuing institutions maintain their existing responsibilities regarding the

management of cardholder's accounts, the authentication of the cardholder and the dissemination and protection of the cardholder's personal, financial and business information.

5 While the foregoing detailed description has described preferred embodiments of the present invention, it is to be understood that the above description is illustrative only and not limiting of the disclosed invention. Modifications may occur to those of skill in this art. Thus, the present invention to be limited only by the claims as set forth below.

What is claimed is:

1. A method of transferring a payment to a seller having an account at a first Financial Service Provider (FSP) from a buyer having an account at a second FSP, the first FSP owning a first account at the first FSP and the second FSP owning a second
5 account at the second FSP, the method comprising the steps of:
 establishing a second correspondence account at the second FSP, the second correspondence account being owned by the first FSP;
 debiting the payment from the buyer's account and correspondingly crediting the payment to the second account;
10 debiting the payment from the second account and correspondingly crediting the payment to the second correspondence account, and
 sending a secure message to the first FSP, advising the first FSP that the payment has been transferred to the second correspondence account and requesting that funds corresponding to the transferred payment be credited to the seller's account.
- 15 2. The method of Claim 1, wherein the first FSP carries out a step of debiting the payment from the first account and correspondingly crediting the seller's account upon receipt of the message.
3. The method of Claim 1, further comprising a step of establishing a first
correspondence account at the first FSP, the first correspondence account being owned by
20 the second FSP.
4. The method of Claim 1, further comprising a step of receiving an acknowledgment from the first FSP, the acknowledgment at least indicating receipt of the secure message by the first FSP.

5. The method of Claim 1, further comprising a step of receiving an acknowledgment from the first FSP, the acknowledgment at least indicating that the payment has been credited to the seller's account.

6. The method of Claim 1, further comprising at least one step of assessing a fee from at least one of the buyer, the seller, the first FSP and the second FSP.

7. The method of Claim 1, wherein the buyer's account includes one of a credit, debit, FSP and payment card.

8. The method of Claim 1, wherein the seller's account includes one of a credit, debit, FSP and payment card.

9. A method of transferring a payment to a seller having an account at a first Financial Service Provider (FSP) from a buyer having an account at a second FSP, comprising the steps of:

establishing a second correspondence account at the second FSP, the second correspondence account being owned by the first FSP;

debiting the payment from the buyer's account and correspondingly crediting the second correspondence account, and

sending a secure message to the first FSP, advising the first FSP that the payment has been transferred to the second correspondence account and requesting that funds corresponding to the transferred payment be credited to the seller's account.

10. The method of Claim 9, wherein the first FSP owns a first account at the first FSP and carries out a step of debiting the payment from the first account and correspondingly crediting the payment to the seller's account upon receipt of the secure message.

11. The method of Claim 9, further comprising the step of establishing a first correspondence account at the first FSP, the first correspondence account being owned by the second FSP.

12. The method of Claim 9, further comprising a step of receiving an acknowledgment from the first FSP, the acknowledgment at least indicating receipt of the secure message by the first FSP.

13. The method of Claim 9, further comprising a step of receiving an acknowledgment from the first FSP, the acknowledgment at least indicating that the seller's account at the first FSP has been correspondingly credited.

14. The method of claim 9, further comprising at least one step of assessing a fee from at least one of the buyer, the seller, the first FSP and the second FSP.

15. The method of Claim 9, wherein the buyer's account includes one of a credit, debit, FSP and payment card.

16. The method of Claim 9, wherein the seller's account includes one of a credit, debit, FSP and payment card.

17. A method of transferring a payment to a seller having an account at a first Financial Service Provider (FSP) from a buyer having an account at a second FSP, the second FSP owning a second account at the second FSP, the method comprising the steps of:

establishing a first correspondence account at the first FSP, the first correspondence account being owned by the second FSP;

debiting the payment from the buyer's account and correspondingly crediting the payment to the second account, and

sending a secure message to the first FSP, advising the first FSP to debit the payment from the first correspondence account and correspondingly credit the payment to the seller's account.

18. The method of Claim 17, further comprising the step of establishing a second correspondence account at the second FSP, the second correspondence account being owned by the first FSP.

19. The method of Claim 17, wherein the first FSP further carries out a step of debiting the payment from the first correspondence account and correspondingly crediting the payment to the seller's account upon receipt of the message.

20. The method of Claim 17, further comprising a step of receiving an acknowledgment from the first FSP, the acknowledgment at least indicating receipt of the secure message by the first FSP.

21. The method of Claim 17, further comprising a step of receiving an acknowledgment from the first FSP, the acknowledgment at least indicating that the seller's account has been correspondingly credited.

22. The method of Claim 17, further comprising at least one step of assessing a fee from at least one of the buyer, the seller, the first FSP and the second FSP.

23. The method of Claim 17, wherein the buyer's account includes one of a credit, debit, FSP and payment card.

24. The method of Claim 17, wherein the seller's account includes one of a credit, debit, FSP and payment card.

25. A method of transferring a payment through a Financial Service Provider (FSP) to a seller having an account at a first FSP from a buyer having an account at a second FSP, the financial service provider maintaining a first account for the first FSP and a second account for the second FSP, comprising the steps of:

debiting the payment from the buyer's account;

sending a first secure message to the financial service provider, instructing the financial service provider to debit the payment from the second account and correspondingly credit the payment to the first account;

5 receiving a second secure message from the first FSP, advising the second FSP that the payment has been transferred to the seller's account.

26. The method of Claim 25, wherein the financial service provider further carries out a step of securely notifying the first FSP of the crediting of the payment to the first account.

10 27. The method of Claim 25, wherein the first FSP carries out a step of crediting the payment to the seller's account and sending the second secure message to the second FSP.

28. The method of Claim 25, wherein the financial service provider includes one of a Central National Bank and the Federal Reserve Bank.

15 29. The method of Claim 25, wherein the financial service provider includes an issuer of at least one of a credit, debit, bank and payment card.

30. The method of Claim 25, further comprising at least one step of assessing a fee from at least one of the buyer, the seller, the first FSP and the second FSP.

20 31. The method of Claim 25, wherein the buyer's account includes one of a credit, debit, bank and payment card.

32. The method of Claim 25, wherein the seller's account includes one of a credit, debit, bank and payment card.

33. A method for an organization to intermediate between a buyer transferring a payment from a buyer account at a first FSP to a seller account at a second FSP, the

organization maintaining a first account for the first FSP and a second account for the second FSP, comprising the steps of:

- receiving a first secure message from a first FSP, the first secure message instructing the financial service provider to debit the payment from the first account and
- 5 correspondingly credit the payment to the second account;
- after receiving the first secure message, debiting the payment from the first account and correspondingly crediting the payment to the second account, and
- sending a second secure message to the second FSP, advising the second FSP of the crediting of the payment to the second account and instructing the second FSP to
- 10 correspondingly credit the payment to the seller's account.

34. The method of Claim 33, wherein the organization includes one of a Central National Bank and the Federal Reserve Bank.

35. The method of Claim 33, wherein the organization includes an issuer of at least one of a credit, debit, bank and payment card.

- 15 36. The method of Claim 33, further comprising at least one step of assessing a fee from at least one of the buyer, the seller, the first FSP and the second FSP.

37. The method of Claim 33, wherein the buyer's account includes one of a credit, debit, bank and payment card.

- 20 38. The method of Claim 33, wherein the seller's account includes one of a credit, debit, bank and payment card.

39. A method for a card issuing company to transfer a payment from a buyer having a buyer account at a first FSP to a seller having a seller account at a second FSP, each of the first and second FSPs maintaining a correspondence account for the card issuing company, comprising the steps of:

debiting the payment from the buyer account and correspondingly crediting the payment to the card issuing company's correspondence account at the first FSP;

5 sending a first secure message to the second FSP, the secure message advising the second FSP that the payment has been credited to the card issuing company's correspondence account at the first FSP;

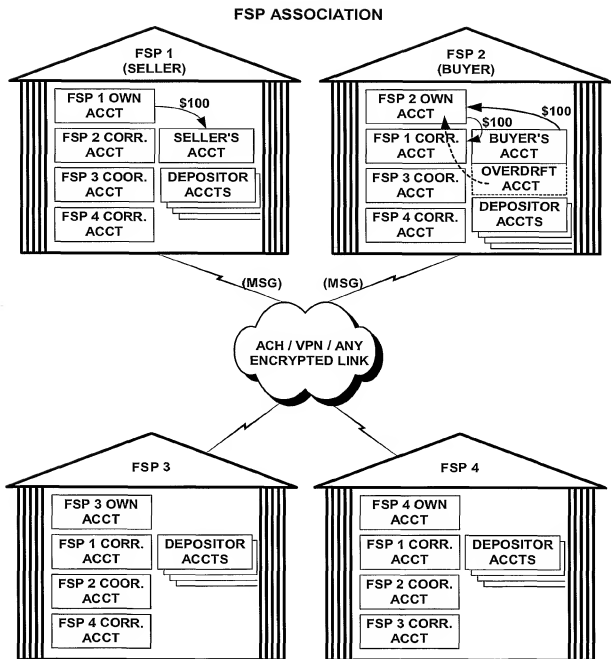
receiving a second secure message from the second FSP, the second secure message advising the first FSP that the payment has been debited from the card issuing company's correspondence account at the second FSP and credited to the seller account.

40. A method for a card issuing company to transfer a payment from a buyer
10 having a buyer account at a first FSP to a seller having a seller account at a second FSP, each of the first and second FSPs maintaining a correspondence account for the card issuing company, comprising the steps of:

receiving a first secure message from the first FSP, the secure message indicating that the payment has been debited from the buyer account and credited to the card issuing
15 company's correspondence account in the first FSP;

responsive to receiving the first secure message, debiting the payment from the card issuing company's correspondence account in the second FSP and correspondingly crediting the payment to the seller account,

20 sending a second secure message to the first FSP, the secure message advising the first FSP that the payment has been credited to the seller account.

*FIG. 1*

FSP ASSOCIATION

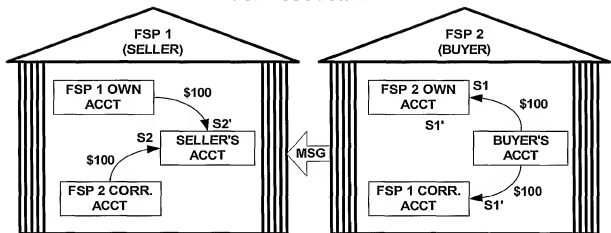


FIG. 2

ORGANIZATION

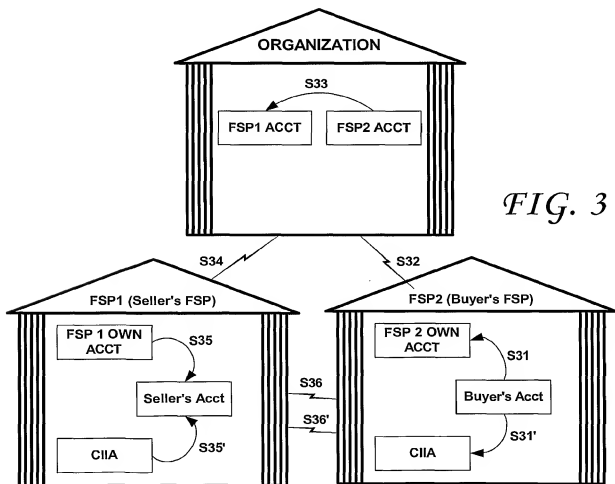


FIG. 3

INTERNATIONAL SEARCH REPORT

 International application No.
 PCT/US01/13307
A. CLASSIFICATION OF SUBJECT MATTER
 IPC(7) : G06F 17/60
 US CL : 705/35, 39, 40

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/35, 39, 40

 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 NONE

 Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 WEST 2.0, DIALOG
C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	US 6,076,074 A (COTTON et al) 13 June 2000, col. 5 - col. 6.	1-40
X	US 5,848,400 A (CHANG) 08 December, 1998, entire document	1-40
A	US 5,455,407 A (ROSEN) 03 October, 1995, entire document	1-40

☐ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:	"T" Inter document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

12 JUNE 2001

Date of mailing of the international search report

03 July 2001 (03.07.01)

 Name and mailing address of the ISA/US
 Commissioner of Patents and Trademarks
 Box PCT
 Washington, D.C. 20231
 Facsimile No. (703) 305-3230

Authorized officer

VINCENT MILLIN

Telephone No. (703) 308-1065